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IBM CORPORATION IPLAW IQ0A/40-3 1701 NORTH STREET ENDICOTT, NY 13760			EXAMINER TAHA, SHAQ	
			ART UNIT 2109	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/526,810

Applicant(s)

MIDGLEY, NICHOLAS JAMES

Examiner

shaq taha

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 22 - 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22 - 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/7/2007.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### **Specification**

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### **Claim Rejections - 35 USC § 112**

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 22, 26 and 28** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The disclosure lacks clear written description, in the description of the upper level utilization, it is unclear what the applicant means by a predetermined upper level utilization.

Art Unit: 2109

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 22, 24, 25, 26, 28, 30, 31 and 33** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 22 recites the limitation "another" in claim 22. There is insufficient antecedent basis for this limitation in the claim.
- Claims 22, 26, 28 recites the limitation "upper level of utilization" in Claims 22, 26, 28. It is unclear what the applicant means by upper level utilization.
- Claims 24, 27, 32, and 33 recites the limitation "under utilized" in Claims 24, 27, 32, and 33. It is unclear what the applicant means by under utilized.
- Claims 29, 30 and 35 recites the limitation "handling request" in Claims 29, 30 and 35. It is unclear how request is being handled.
- Claims 24, 25, 28, 30, 31, 33 recite the limitation "automatically" in claims 24, 25, 28, 30, 31, 33. It is unclear what the applicant means by automatically.
- Claim 33 recites the limitation "subsequently" in Claim 33. It is unclear what the applicant means by subsequently.

**Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22 – 33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Bruck et al. (US 6,801,949)

- Regarding claim 22, Bruck teaches a method for allocating servers to a cluster of servers, **[The front layer machines comprise a server cluster that performs fail-over and dynamic load balancing for both server layers, (Column 2 lines 44 – 46)]**; said method comprising the steps of: sending performance data, **[data performing and traffic reconfiguration , Fig. 2]**, of a first server to a second server, said first server being part of said cluster of servers, **[a distributed server cluster for computer network data traffic, (Column 3, lines 19 – 23)]**; based on the performance data, said second server determining if said first server has reached a predetermined upper level of utilization, **[Accordingly, when data traffic arrives at Server 2 for the IP address (200.199.198.1), Server 2 can determine from packet information of the data that the TCP**

**connection with which the data is associated was initiated prior to the address reassignment to Server 2, and in fact was started with Server 1, (Column 28, lines 7 – 12) & (Fig. 2)];**

and if said first server has reached said predetermined upper level of utilization,

**[Fig. 1, Load balancer 104];** said second server automatically sending a

reconfiguration request to a server responsible for allocating servers to said

cluster to allocate another server to said cluster, **[communicating with a**

**plurality of server computers that are all members of a first subnet of**

**network addresses over which network data is sent and received wherein**

**the communication includes state sharing information with a dynamic**

**reconfiguration protocol, (Column 40, lines 24 – 34)];**

and in response, said responsible server automatically identifying another, **[and**

**the server identifies the distributed server that originally had the assigned**

**IP address and with which the previous client-server connection existed,**

**(Column 28, lines 43 – 46)];**

available server and connection information for said other server and allocating

said other server to said cluster, **[In another aspect of the server cluster,**

**servers can be dynamically added and deleted from the cluster without**

**complicated configuration operations for the cluster, (Column 3, lines 6 –**

**10)].**

- Regarding claim 23, Bruck teaches a method wherein the step of automatically allocating said other server to said cluster comprises the steps of updating configuration file of said responsible server to list said other server as part of said cluster, **[Fig. 3]**.
- Regarding claim 24, Bruck teaches a method further comprising the steps of: based on the performance data, said second server determining if said first server is under utilized, **[receiving network data traffic through a network interface that permits communication between the server computer and other computers, communicating with a plurality of server computers that are all members of a first subnet of network addresses over which network data is sent and received, comprising a front layer of servers, (Column 41, lines 29 – 35)]**; and if said first server is under utilized, said second server automatically sending a reconfiguration request to said server responsible for allocating servers, **[Distributed servers, Fig. 3]**, to said cluster to de-allocate said first server from said cluster, and in response, said responsible server automatically de-allocating said first server from said cluster, **[wherein the communication includes state sharing information with a dynamic reconfiguration protocol that permits reassignment of network addresses among the front layer servers and specifies state information sharing and load information sharing among the front layer servers; (Column 41, lines 35 – 50)]**.

- Regarding claim 25, Bruck teaches a method wherein the step of automatically de-allocating said first server from said cluster comprises the step of updating a configuration file of said responsible server to remove said first server from said cluster, **[In another aspect of the server cluster, servers can be dynamically added and deleted from the cluster without complicated configuration operations for the cluster, (Column 3, lines 6 – 10)]**.
- Regarding claim 26, Bruck teaches a system for allocating servers to a cluster of servers, **[The front layer machines comprise a server cluster that performs fail-over and dynamic load balancing for both server layers, (Column 2 lines 44 – 46)]**;  
said system comprising: means for sending performance data of a first server to a second server, said first server being part of said cluster of servers, **[a distributed server cluster for computer network data traffic dynamically reconfigures traffic assignments among multiple server machines for increased network availability, (Column 3, lines 19 – 23) & (Fig. 2)]**;  
means, based on the performance data, within said second server for determining if said first server has reached a predetermined upper level of utilization, **[Accordingly, when data traffic arrives at Server 2 for the IP address, Server 2 can determine from packet information of the data that the TCP connection with which the data is associated was initiated prior to the address reassignment to Server 2, and in fact was started with Server 1, (Column 28, lines 7 – 12) & (Fig. 1, Load balancer 104)]**;



and if said first server has reached said predetermined upper level of utilization, automatically sending a reconfiguration request to a server responsible for allocating servers to said cluster to allocate another server to said cluster, **[communicating with a plurality of server computers that are all members of a first subnet of network addresses over which network data is sent and received, comprising a front layer of servers, wherein the communication includes state sharing information with a dynamic reconfiguration protocol that permits reassignment of network addresses among the front layer servers and specifies state information sharing and load information sharing among the front layer servers, (Column 40, lines 24 – 34)];** and means, responsive to said reconfiguration request, within said responsible server for automatically identifying another, **[and the server identifies the distributed server that originally had the assigned IP address and with which the previous client-server connection existed, (Column 28, lines 43 – 46)];** available server and connection information for said other server and allocating said other server to said cluster, **[In another aspect of the server cluster, servers can be dynamically added and deleted from the cluster without complicated configuration operations for the cluster, (Column 3, lines 6 – 10)].**

- Regarding claim 27, Bruck teaches a system further comprising: means, based on the performance data, within said second server for determining if said first server is under utilized, and if said first server is under utilized, **[receiving network data traffic through a network interface that permits communication between the server computer and other computers, communicating with a plurality of server computers that are all members of a first subnet of network addresses over which network data is sent and received, comprising a front layer of servers, (Column 41, lines 29 – 35)];** automatically sending a reconfiguration request to said server responsible for allocating servers to said cluster to de-allocate said first server from said cluster; and means, responsive to the de-allocation reconfiguration request, within said responsible server for automatically de-allocating said first server from said cluster, **[wherein the communication includes state sharing information with a dynamic reconfiguration protocol that permits reassignment of network addresses among the front layer servers and specifies state information sharing and load information sharing among the front layer servers; communicating with a plurality of network computers that are members of a second subnet of network addresses to send and receive network data traffic; sending a data packet with the request information to a computer of the second subnet; storing header information for the data request; receiving data packets of the requested data file from the second subnet**

**computer and forwarding the data packets to the requesting computer, (Column 41, lines 35 – 50)].**

- Regarding claim 28, Bruck teaches a method for managing servers, said method comprising the steps of: a first server determining performance data for said first server and performance data for a second server, **[Accordingly, when data traffic arrives at Server 2 for the IP address (200.199.198.1), Server 2 can determine from packet information of the data that the TCP connection with which the data is associated was initiated prior to the address reassignment to Server 2, and in fact was started with Server 1, (Column 28, lines 7 – 12)];**  
and reporting to a third server said performance data for said first server and said performance data for said second servers, **[The distributed server cluster software would then report the results as part of the GUI, as described further below, (Column 20, lines 10 – 16)];**  
said first and second servers being in a cluster of servers, **[Fig. 2];**  
based on the reported performance data, said third server determining if said first server or said second server has reached a predetermined upper level of utilization, **[The present invention provides a scalable, distributed, highly available, load balancing server system having multiple machines functioning as a front server layer between the network and a back-end server layer having multiple machines functioning as Web file servers, FTP**

**servers, or other application servers and provides a convenient graphical user interface (GUI) for operating the system, (Column 2, lines 37 – 45)];**

and if said first server or said third server has reached said predetermined upper level of utilization, said third server sending a reconfiguration request to said first server to reduce subsequent utilization of the server, which has reached said, predetermined upper level of utilization, **[The distributed server next receives the requested data (for example, a packet for a Web page or for an FTP file) from the Web server and forwards it to the requesting client machine, as indicated by the flow diagram box numbered 1806. While the requested data is forwarded to the client, the distributed server maintains state data on the client communications session, (Column 31, lines 12 – 19)];**

and said first server automatically reconfiguring itself to reduce subsequent utilization of the server, which has reached said, predetermined upper level of utilization, **[Finally, in an optimization step, the authoritative node sends forwarding information to the default reply node. The default reply node stores this information, which indicates the node to which the authoritative node forwarded the reply for symmetric communication. On subsequent reply messages received at the default reply node, the distributed server of the default reply node will know which server should receive the reply message, and will directly forward the reply message to that node. Thus, the default reply node can skip the step of sending the reply message to the authoritative node, (Column 33, lines 56 – 65)].**

- Regarding claim 29, Bruck teaches a method further comprising the earlier steps of: said first server receiving a request from a client device and determining whether said first server should handle said request, **[In the first operation, represented by the flow diagram box numbered 1802, a distributed server (DS) in a server cluster receives a data file request and sends along a packet with the request information to an appropriate Web server (WS) of a server farm, (Column 31, lines 1 – 6)]**; and if so, said first server handling said request, and if not, said first server identifying said second server as available to handle said request and forwarding the request to said second server for handling, **[When the authoritative node receives the data request, the authoritative node determines which distributed server in the server cluster will handle the data traffic associated with this request from this client to the designated Web server, (Column 33, lines 25 – 31)]**.
- Regarding claim 30, Bruck teaches a method wherein the step of said first server automatically reconfiguring itself comprises the step of said first server updating a configuration file which lists one or more servers that are available to handle specified types of client requests, **[In another aspect of the server cluster, servers can be dynamically added and deleted from the cluster without complicated configuration operations for the cluster, (Column 3,**

**lines 6 – 10) & (FIG.3)].**

- Regarding claim 31, Bruck teaches a method wherein the step of said first server automatically reconfiguring itself comprises the step of automatically identifying a fourth, available server and connection information for said fourth server and allocating said fourth server to said cluster, **[In another aspect of the server cluster, servers can be dynamically added and deleted from the cluster without complicated configuration operations for the cluster, (Column 3, lines 6 – 10) & (FIG.3)].**
- Regarding claim 32, Bruck teaches a method further comprising the steps of:  
based on said performance data, said third server determining if said first server or said second server is under utilized, **[receiving network data traffic through a network interface that permits communication between the server computer and other computers, communicating with a plurality of server computers that are all members of a first subnet of network addresses over which network data is sent and received, comprising a front layer of servers, (Column 41, lines 29 – 35)];**  
and if said first server or said third server is under utilized, said third server sending a reconfiguration request to said first server to de-allocate the server which is under utilized, and said first server automatically reconfiguring it self to de-allocate from said cluster said server that is under utilized, **[wherein the**

**communication includes state sharing information with a dynamic reconfiguration protocol that permits reassignment of network addresses among the front layer servers and specifies state information sharing and load information sharing among the front layer servers; communicating with a plurality of network computers that are members of a second subnet of network addresses to send and receive network data traffic; sending a data packet with the request information to a computer of the second subnet; storing header information for the data request; receiving data packets of the requested data file from the second subnet computer and forwarding the data packets to the requesting computer, (Column 41, lines 35 – 50)].**

- Regarding claim 33, Bruck teaches a method wherein the automatic de-allocating reconfiguring step comprises the step of adding to a pool of available servers, said server that is under utilized, **[receiving network data traffic through a network interface that permits communication between the server computer and other computers, communicating with a plurality of server computers that are all members of a first subnet of network addresses over which network data is sent and received, comprising a front layer of servers, (Column 41, lines 29 – 35)];**  
such that if a server in said cluster subsequently reaches said predetermined upper level of utilization, the de-allocated server can be re-allocated to said

cluster, [wherein the communication includes state sharing information with a dynamic reconfiguration protocol that permits reassignment of network addresses among the front layer servers and specifies state information sharing and load information sharing among the front layer servers; communicating with a plurality of network computers that are members of a second subnet of network addresses to send and receive network data traffic; sending a data packet with the request information to a computer of the second subnet; storing header information for the data request; receiving data packets of the requested data file from the second subnet computer and forwarding the data packets to the requesting computer, (Column 41, lines 35 – 50)].

- Regarding claim 35, Bruck teaches a method wherein the step of said first server determining whether said first server should handle said request, comprises the step of said first server determining if said request is for data that is currently cached at said first server, and if so, the step of said first server handling said request comprises the step of said first server supplying said data from the cache at said first server to said client device, [This is advantageous because a cluster of servers may assign a distributed server to handle incoming traffic to be forwarded to a Web server farm, but that distributed server may be different from the default server that will be used by the Web server for replies. Thus, the distributed server handling incoming traffic destined for



**a Web server will not be the same server that receives return responses from the Web server. This results in asymmetric traffic loading among the distributed servers, and is undesirable in some cases where symmetric routing is required, (Column 32, lines 53 – 67)].**

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruck et al. (US 6,801,949) as applied to claims 1 above, and further in view of Voskuil et al. (US 20020032768).

- Regarding Claim 34 Brucket teaches the method according to claim 28, as described above. Bruck further teaches a scalable, distributed, highly available, load balancing server system having multiple machines is provided that functions

as a front server layer between a network (such as the Internet) and a back-end server layer having multiple machines functioning as Web file servers, FTP servers, or other application servers, **(See Abstract)**.

Bruck et al. differs from the claimed invention is that XML is not taught in Sequeira et al.

Voskuil teaches a system for automatically configuring applications installed on an end user computer system includes an auto profile server connected to a network such as the Internet. The end user computer includes a third party client application that communicates with the auto profile server to send information to and receive information from the end user computer, **(See Abstract)**, and further teaches that the instructions can be incorporated in an XML data structure 246 that is transmitted from the server, **( Paragraph 0029 )**. Voskuil provides the advantage of using XML to implement data stream.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Bruck by including XML as taught by Voskuil.

One of ordinary skill in the art would have been motivated to make this modification in order provide the advantage of providing the advantage of using XML data streams; and said third server sends said reconfiguration request to said first server using an XML data stream.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6, 445,922 Method and system for support of overlapping IP addresses between an inter working function and a mobile IP foreign agent.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Shaq Taha** whose telephone number is 571-270-1921. The examiner can normally be reached on 8:30am-5pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jeff Pwu** can be reached on 571-272-6798.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shaq Taha

8/2/2007

  
JEFFREY PWU  
PRIMARY EXAMINER